

CSA - 6377-63

Corres 63-1C

Copy #

18 December 1963

Dear John:

Transmitted herewith are firm quotes and specifications on the Ronchi Rulings and Liquid Platen discussed previously.

These items will be available for delivery within twelve (12) weeks from receipt of authorization to proceed.

The price and delivery quotations are predicated upon your activity issuing fixed price redeterminable contracts.

The prices stated in our quotations are valid for a period of sixty (60) days after which time Itek reserves the right to amend same.

If you should require further information, please contact this office.

Very truly yours,

[REDACTED]  
Contracts Manager

HAM/mm

RONCHI RULINGS

Senior Engineer  
Engineer  
Senior Technician

Total Direct Labor Hours

Direct Labor Dollars  
Labor Overhead  
Material

STATINTL

Sub-Total

G + A

Total Costs

Profit

Total Selling Price

STATINTL

LIQUID PLATEN

Engineer  
Designer  
Optical Shop  
Senior Experimental Machinist

Total Direct Labor Hours

Direct Labor Dollars

Labor Overhead

Material

Other Direct Charges

Sub-Total

G + A

Total Costs

Profit

Total Selling Price

STATINTL

LIQUID PLATEN SPECIFICATIONS

This platen shall be capable of accepting a 5" x 7" piece of film. The film must be held rigidly between two pieces of optically flat glass (17 green light) during viewing. One piece of glass must be retractable to retrieve film. The platen must be capable of holding a very thin liquid without leakage. The sealing materials should be unaffected by long exposure to this fluid, such as swelling, cracking, etc. The clear aperture of the platen will be approximately five inches in diameter. The glass in the platen will be polished to 17 green light within the clear aperture.

## RONCHI RULINGS

Specifications (Revision A, 21 October 1963)

**Materials and Format:** The pattern shall be placed on 70mm film having a high degree of dimensional stability. The rulings shall cover an area of  $2\frac{1}{2} \times 2\frac{1}{4}$  inches on the film (can be as small as 2 x 2 inches if quality falls-off near the edges), and be located according to the accompanying sketch. Ruling lines shall be parallel to one of the  $2\frac{1}{4}$ -inch format edges, and lie in the same direction as the "long" dimension of the film strip.

**Frequency:**

Three rulings are required. They shall have line-frequencies of 760, 380, 130 cycles/inch,  $\pm 2.5\%$ , respectively.

**Spacing:**

Lines and spaces on the ruling shall be equal to within 10%; uniform over the format.

**Contrast:**

The pattern shall be of the highest contrast obtainable consistent with maintaining the clear spaces as close to the base transmission of the material as possible. Contrast shall be uniform over the format. The average transmission of the ruling shall be  $50\% \pm 10\%$ .

**Edge Sharpness:**

The edges of the lines in the patterns shall be of the highest definition possible. The fifth order (at least) shall be visible in the Fraunhofer spectrum of the 760 and 380 cycles/inch rulings, and the seventh (at least) of the 130 cycles/inch ruling.

The specification of these diffraction orders in lieu of a corresponding microdensitometer trace stems from the use to which these rulings will ultimately be put. They will be inserted into a coherent optical system and the light falling into the various Fraunhofer orders used separately from the rest. It is therefore quite important that these orders be present.

The 5th order on the 760 cycles/inch ruling corresponds to a spatial frequency of approx. 150 cycles/inch. It will be quite impractical to convert this into something that a microdensitometer would show. It is much simpler to place the ruling in a coherent optical system and ascertain the frequency directly.

Sketch of format for Ronchi Rulings:

(All dimensions in inches unless otherwise noted. Tolerances not critical,  $\pm 1/32$  approx.)

